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D E C I S I O N
of 24 November 2005

Case Number: T 0831/02 - 3.5.03

Application Number: 98308324.7

Publication Number: 0913957

IPC: H04B 7/005

Language of the proceedings: EN

Title of invention:
Power control for mobile wireless communication system

Applicant:
LUCENT TECHNOLOGIES INC.

Opponent:
-

Headword:
Power control/LUCENT

Relevant legal provisions:
EPC Art. 116(1), 113(1), 56
EPC R. 68(1)

Keyword:
"Inventive step (no)"

Decisions cited:
T 1059/04; G 0010/93

Catchword:
-

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Case Number: T 0831/02 - 3.5.03

D E C I S I O N
of the Technical Board of Appeal 3.5.03
of 24 November 2005

Appellant: LUCENT TECHNOLOGIES INC.

Representative: Sarup David Alexander
Lucent Technologies NS UK Limited
5 Mornington Road
Woodford Green
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Decision under appeal: **Decision of the Examining Division of the European Patent Office posted 6 May 2002 refusing European application No. 98308324.7 pursuant to Article 97(1) EPC.**

Composition of the Board:

Chairman: A. S. Clelland
Members: A. Ritzka
M.-B. Tardo-Dino

Summary of Facts and Submissions

I. This appeal is against the decision of the examining division dated 6 May 2002, refusing European patent application No. 98308324.7 for the reason that the subject-matter of the independent claims of a main request was not novel having regard to the disclosure of EP 0682418 A (D1) and that the independent claims according to first, second and third auxiliary requests contained subject-matter which extended beyond the content of the application as filed, Article 123(2) EPC.

Notice of appeal was filed on 27 May 2002 and the appeal fee paid. With the statement of grounds of appeal filed on 19 July 2002 the appellant withdrew all the existing requests and submitted an amended set of claims. The appellant requested that the appealed decision be cancelled in its entirety and that a patent be granted.

II. The board issued an invitation to oral proceedings accompanied by a communication. The board, making use of its competence under Article 111(1) EPC introduced US 5 204 970 A (D2), which had been cited in the search report, into the proceedings. In the communication it expressed the preliminary view that the subject-matter of claims 1 and 12 did not appear to involve an inventive step in view of the disclosure of D1 and D2.

III. In a letter dated 6 October 2005, in response to the communication, sets of claims of a new main request (referred to by the appellant as the "primary request") and five auxiliary requests were submitted.

IV. Claim 1 according to the main request reads as follows:

"A method of establishing initial power control between a first and second station in a mobile wireless communication system comprising:

transmitting from a first station a first set-up signal over a first channel within said communication system;

receiving said first signal at a second station and transmitting in response, a second signal over a second channel within said communication system;

receiving said second signal, at said first station, and transmitting, in response, a third signal, the power of said third signal being adjusted in response to information included in the second signal the information is [sic] a measure of said first signal as measured at said second station, and the power of said third signal is [sic] adjusted to an appropriate level at which to conduct further communication exchanges indicated by said information of said first signal as measured at said second station and included in said second signal characterised in that the measure is signal-to-interference ratio (SIR), and the first station is a base station and that the second station is a mobile end-user station."

Claim 1 according to the first auxiliary request reads as follows:

"A method of establishing initial power control between a first and second station in a mobile wireless communication system comprising:

transmitting from a first station a first set-up signal over a first channel within said communication system;

receiving said first signal at a second station and transmitting in response, a second signal over a second channel within said communication system;

receiving said second signal, at said first station, and transmitting, in response, a third signal, the power of said third signal being adjusted in response to information included in the second signal wherein the information is the Signal-to-interference ration (SIR) of said first signal as measured at said second station, and the power of said third signal is adjusted to an appropriate level at which to conduct further communication exchanges indicated by the Signal-to-interference ratio (SIR) of said first signal as measured at said second station and included in said second signal, and the first station is a base station and that the second station is a mobile-end-user station."

Claim 1 according to the second and third auxiliary requests adds to claim 1 of the main and first auxiliary requests respectively the following feature:

"the first channel is a broadcast control channel over which the first signal which is a constant information signal, is broadcast and the second channel is a random access channel RACH over which the mobile station transmits the second signal which is a request to transmit."

Claim 1 according to the fourth and fifth auxiliary requests adds to claim 1 of the main and first auxiliary requests respectively the following feature:

"the first channel is a paging channel over which the base station pages with the first signal the mobile station."

V. The appellant announced that it would not attend the oral proceedings set for 24 November 2005 and requested that the oral proceedings be cancelled and the procedure continued in writing. The board informed the appellant that the oral proceedings would take place as scheduled on 24 November 2005.

VI. Oral proceedings took place as scheduled on 24 November 2005. Neither the appellant nor its representative attended the hearing. During oral proceedings the board introduced, as evidence of the common general knowledge in the art, the document ETSI-Standard GSM 04.03, Version 5.2.0, August 1997, Reference: TS/SMG-030403QR1 (D3) in response to the requests filed with letter of 6 October 2005. After deliberation on the basis of the submissions and requests of 6 October 2005 the chairman announced the decision.

Reasons for the decision:

1. *Oral proceedings*

As pointed out by this board in a different composition in decision T 1059/04, the function of a board of appeal is to reach a decision on the issues presented

to it, not to act as an alternative examining division (cf. G 10/93, OJ 1995 172, in particular point 4).

According to Article 116(1) EPC, oral proceedings shall take place either at the instance of the European Patent Office if it considers this to be expedient or at request of any party to the proceedings. Rule 68(1) EPC provides that where oral proceedings are held before the European Patent Office, the decision may be given orally. Oral proceedings are considered as an effective way to discuss cases mature for decision, because the appellant is given the opportunity to present its concluding comments on the outstanding issues (Article 113(1) EPC). A decision can be made at the end of oral proceedings based on the requests discussed during oral proceedings.

The need for procedural economy dictates that the board should reach its decision as quickly as possible while giving the appellant a fair chance to argue its case. In the present appeal the holding of oral proceedings was considered by the board to meet both of these requirements. The appellant gave no reasons to support the request to cancel the oral proceedings scheduled by the board and to continue the procedure in writing. The board considered that, despite the appellant's announced intention not to attend, the twin requirements of fairness and procedural economy were still best served by holding the oral proceedings as scheduled. The mere choice by the appellant not to attend was not a sufficient reason to delay the board's decision. If the appellant had attended the oral proceedings, it would have had an opportunity to present its comments. The board considered therefore

that Article 113(1) EPC had been satisfied. The request to cancel the scheduled oral proceedings and that the procedure be continued in writing was therefore refused.

2. *Inventive step*

2.1 Main request

D2 is considered the single most relevant prior art document.

D2 discloses a communication system capable of adjusting transmit power of a subscriber unit (see title), i.e. it discloses a method of establishing power control between a first and second station in a mobile wireless communication system.

A receiver site which may be a repeater, a central control station or a subscriber unit (see D2, column 3, lines 5 to 7) receives a signal sent by a subscriber station via an antenna (see D2, column 3, lines 10 to 11) and routes it to a noise/received signal strength indicator analysis means (see D2, column 3, lines 11 to 13). The measured information may be transmitted to the subscriber unit with the next message (see D2, column 2, lines 41 to 43). This implies that D2 discloses transmitting from a first station a first signal over a first channel within said communication system and receiving said first signal at a second station and transmitting in response, a second signal over a second channel within said communication system.

According to one embodiment of D2 the total noise power is transmitted to the subscriber unit which determines the power adjust value based on the total noise power at the receiving site and the strength of the received signal from the receiving site (see D2, column 3, lines 48 to 53). The transmitter power of the subscriber unit is adjusted according to the power adjust value (see D2, column 1, lines 63/64). This implies that D2 discloses receiving said second signal, at said first station, and transmitting, in response, a third signal, the power of said third signal being adjusted in response to information included in the second signal to an appropriate level at which to conduct further communication exchanges indicated by said information of said first signal as measured at said second station and included in said second signal.

D2 is not explicitly concerned with initial power control and does not disclose: the use of a set-up signal as first signal; that the signal-to-interference ratio is the measured information; or that the first station is a base station and the second station is a mobile station. However, in the board's view there is no technical distinction between power control in normal operation and initial power control. The skilled person would choose whatever appropriate signal is available at the time at which power control is to be performed, so that a set-up signal would be used for initial power control. Thus, the use of a set-up signal as first signal would be obvious to the skilled person.

Turning now to the use of the signal-to-interference ratio as measured information, the board notes that the somewhat imprecise terms signal-to-interference ratio

and signal-to-noise ratio are often used interchangeably by skilled persons.

Moreover, D2, column 4, lines 61 to 68 discloses that the measure used to adjust power can be determined in a number of ways, including the signal-to-noise ratio of the received signal. In accordance with D2, column 4, lines 47 to 54 the total noise power is a combination of the receiver added noise and the received signal noise, the latter including interference, adjacent transmitter carrier frequency noise, and distortion. In the board's view no distinction of substance can be found in the use of the signal-to-interference ratio instead of the more generalised signal-to-noise ratio, interference being a major contribution to the total noise.

Finally, D2, column 2, line 54 to column 3, line 7 discloses the use of power control between two portable units, noise analysis of the received signal being possible in a repeater, a central control station or a subscriber unit. The skilled person is thus taught that the power control method can be performed in the subscriber unit, i.e. end-user mobile station. Thus, D2 discloses implicitly that the mobile station is provided with the equipment needed for power control. The use of this equipment for power control in the transmission between base station and mobile station would be self-evident to the skilled person.

The board notes in this connection that D1, which also concerns a power control method for mobile radio, explicitly discloses at column 4, lines 3 to 6 that power control is needed for transmission both from the

mobile station to the base station and from the base station to the mobile station, and at column 11, lines 48 to 50 that similar arrangements and methods can be used for this.

Thus, the subject-matter of claim 1 does not involve an inventive step, Article 56 EPC. The main request is accordingly not allowable.

2.2 First auxiliary request

Claim 1 according to the first auxiliary request does not differ in substance from claim 1 of the main request but is not in two-part form. The arguments put forward in connection with the main request apply.

Thus, claim 1 according to the first auxiliary request does not comply with Article 56 EPC and the request is not allowable.

2.3 Second auxiliary request

Claim 1 according to the second auxiliary request adds to claim 1 of the main request the features that the first channel is a broadcast control channel and the second channel is a random access channel. As a method for initial power control is claimed, it is obvious to the skilled person that no specific channel allocation has taken place before. It is common general knowledge in the art (see e.g. D3) that the mobile station listens to the broadcast control channel (BCCH), over which a variety of information is sent to all of the mobile stations, in the set-up phase. In this phase a communication from the mobile to the base station is

possible using the random access channel (RACH). Using the BCCH as first channel and the RACH as second channel would therefore be the natural choice for the skilled person and does not involve an inventive step.

Thus, claim 1 according to the second auxiliary request does not comply with Article 56 EPC and the request is therefore not allowable.

2.4 Third auxiliary request

Claim 1 according to the third auxiliary request does not differ in substance from claim 1 of the second auxiliary request but is not in two-part form. The arguments put forward in connection with the second auxiliary request apply.

Thus, claim 1 according to the third auxiliary request does not comply with Article 56 EPC and the request is therefore not allowable.

2.5 Fourth auxiliary request

Claim 1 according to the fourth auxiliary request adds to claim 1 of the main request the feature that the first channel is a paging channel. The skilled person would be aware that a paging channel is part of the downlink common control channel (see e.g. D3) and is used for paging a mobile station at the beginning of a mobile communication. Using the paging channel as first channel would therefore be the natural choice for the skilled person and does not involve an inventive step.

Thus, claim 1 according to the fourth auxiliary request does not comply with Article 56 EPC and the request is therefore not allowable.

2.6 Fifth auxiliary request

Claim 1 according to the fifth auxiliary request does not differ in substance from claim 1 of the fourth auxiliary request but is not in two-part form. The arguments put forward in connection with the fourth auxiliary request apply.

Thus, claim 1 according to the fifth auxiliary request does not comply with Article 56 EPC and the request is therefore not allowable.

3. There being no allowable request, it follows that the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Magliano A. S. Clelland